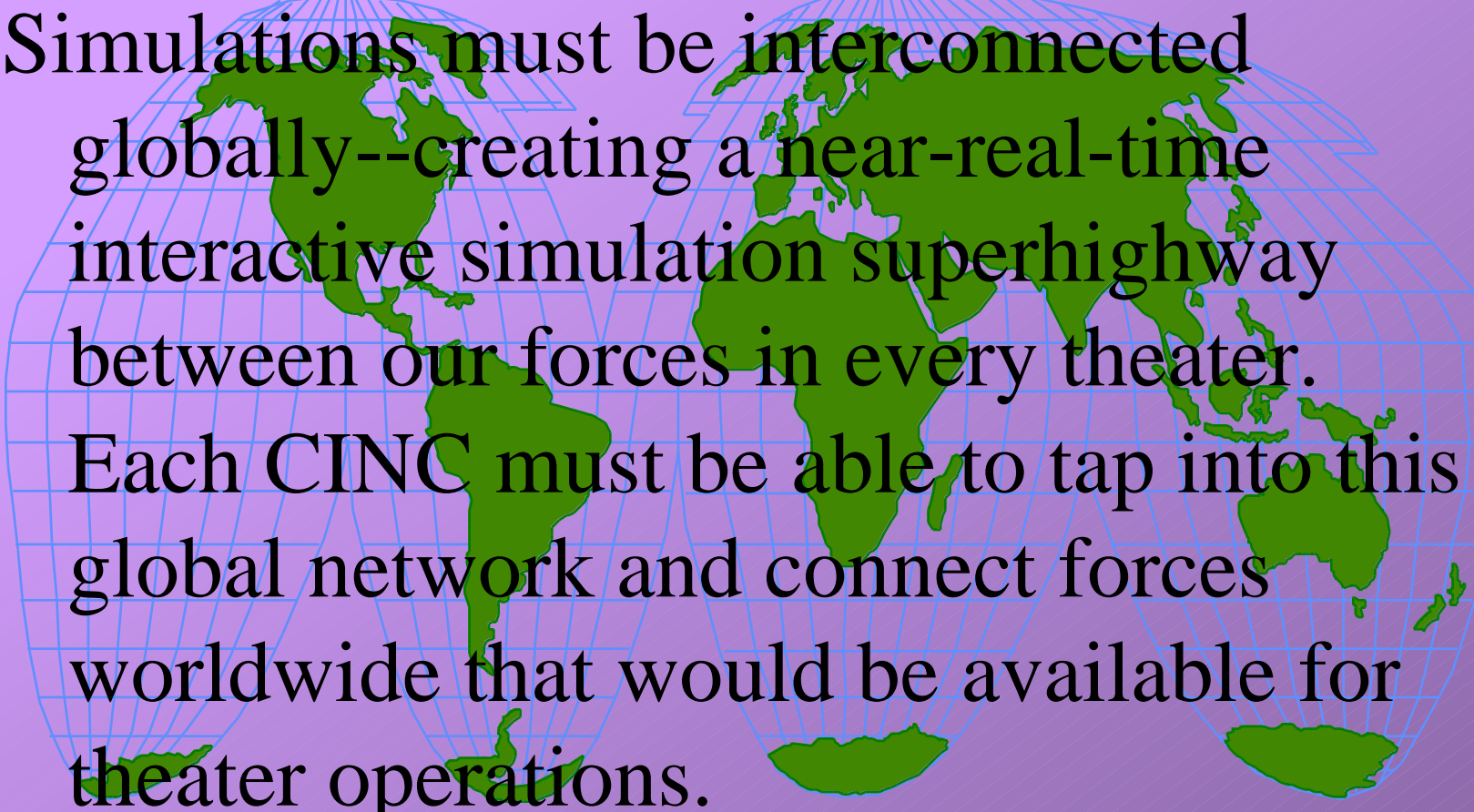# The
Joint Simulation System
(JSIMS)

Presented at Analytic Wargaming Conference, 1 Apr 97

CHAIRMAN'S JOINT VISION 2010

Simulations must be interconnected globally--creating a near-real-time interactive simulation superhighway between our forces in every theater. Each CINC must be able to tap into this global network and connect forces worldwide that would be available for theater operations.

WHY JSIMS ?

- **Improve Joint warfare functionality in training**
  - Support new missions in joint perspective
  - Improve responsiveness to training needs
  - Employ current and future C^4I systems

- **Replicate the operational environment**
  - Represent the full mission space
  - All phases of operations
  - Natural/physical environment

- **Reduce resource requirements per event**
  - Planning
  - Execution
  - Assessment

THE JOINT TRAINING SYSTEM
THE PROCESS

Requirements

- **Derived From National Military Strategy and Assigned Missions**

Based on Commander's Intent & Joint Doctrine/JTTP

Stated in Terms Of Joint Mission Essential Tasks; Conditions; and Joint Standards

Plans

- **Driven by Training Requirements, Training Audience and Tools**

Creates Joint Training Plan And Establishes Objectives To Meet Requirements

Guidance Provided and Schedules Deconflicted by the CJCS

JOINT TRAINING SYSTEM

Assessments

- **Commander Assesses:**
  - **Training Effectiveness**
  - **Joint Readiness**

Identify Ability to Meet Joint Standards:

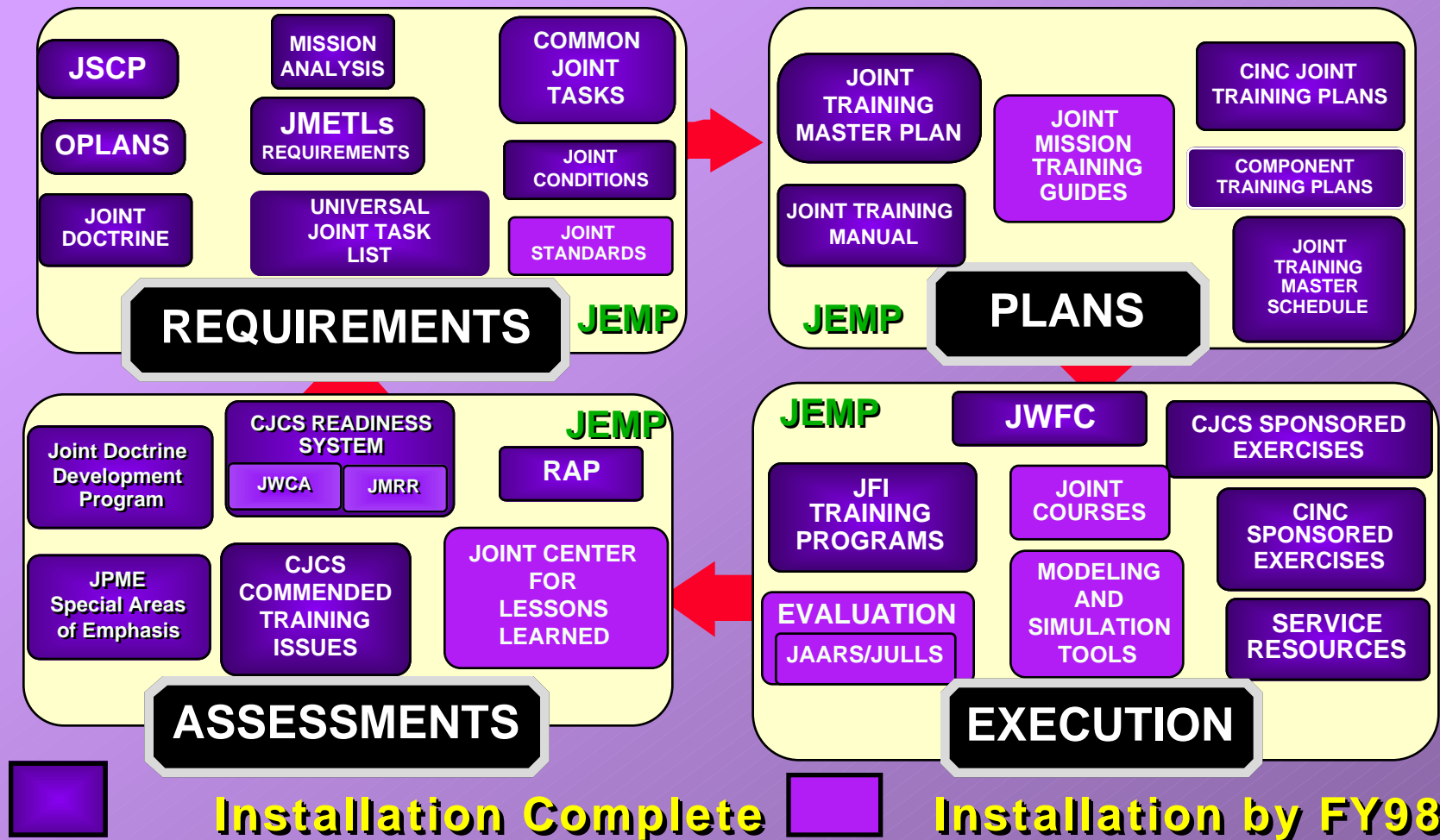**Strengths/Deficiencies in Doctrine, Organization, Training, Materiel & Education, & People**

Execution

- **Joint Training Conducted by CJCS & Combatant Commands**

Commanders Evaluate Each Event

Common Tasks Addressed by USACOM & SOCOM

THE JOINT TRAINING SYSTEM
KEY COMPONENTS

JSCP

OPLANS

JOINT DOCTRINE

MISSION ANALYSIS

JMETLs REQUIREMENTS

UNIVERSAL JOINT TASK LIST

COMMON JOINT TASKS

JOINT CONDITIONS

JOINT STANDARDS

JEMP

REQUIREMENTS

JOINT TRAINING MASTER PLAN

JOINT TRAINING MANUAL

JOINT MISSION TRAINING GUIDES

CINC JOINT TRAINING PLANS

COMPONENT TRAINING PLANS

JOINT TRAINING MASTER SCHEDULE

JEMP

PLANS

Joint Doctrine Development Program

CJCS READINESS SYSTEM

JWCA **JMRR**

JEMP

RAP

JPME Special Areas of Emphasis

CJCS COMMENDED TRAINING ISSUES

JOINT CENTER FOR LESSONS LEARNED

ASSESSMENTS

JEMP **JWFC**

JFI TRAINING PROGRAMS

EVALUATION

JAARS/JULLS

JOINT COURSES

MODELING AND SIMULATION TOOLS

CJCS SPONSORED EXERCISES

CINC SPONSORED EXERCISES

SERVICE RESOURCES

EXECUTION

Installation Complete

Installation by FY98

PUTTING THE SYSTEM IN PLACE BY FY98

WHAT IS JSIMS ?

- **Next Generation Simulation System**

- **Joint Synthetic Battlespace for training, educating, practicing and mission rehearsal**

- **Strategic Theater and Operational Levels at Initial Operational Capability (IOC) - 1999**

- **Mature Military Operations Other Than War (MOOTW) and force enabler capabilities at Full Operational Capability (FOC) - 2003**

- **Link into existing and future C^4I systems**

- **Cooperative effort across DOD and other government agencies**

CHALLENGES

- Transition plan from current simulation systems
- Service versus Joint Training Requirements
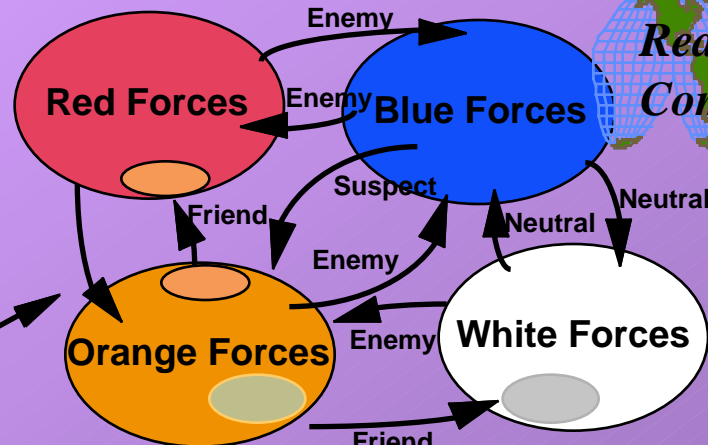
JSIMS TRAINING ENVIRONMENT

Training Audience

Multi-Dimensional Factions

Real World Complexities

Red Forces

Blue Forces

— Enemy —
— Enemy —

Suspect

Friend

Neutral

Neutral

Enemy

Orange Forces

Enemy

White Forces

Friend

Factions within Forces
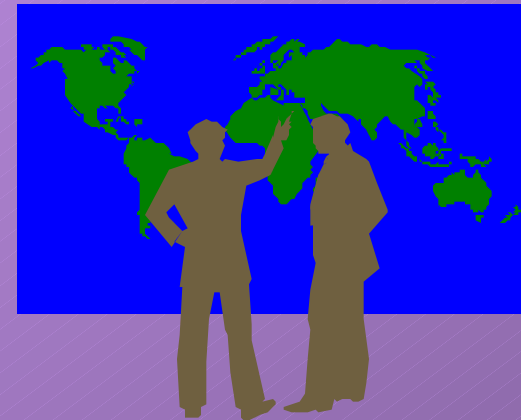
Requirements

JSIMS

C4I

AAR

- **Faster Response**
- **More Flexible**
- **Simpler Support**
- **Less Expensive**

THE MODELING & SIMULATION ENVIRONMENT

"... create situations for the CDR and Staff to execute the Decision Making Process ..."

- Bring scenario to life at real time   (TPFDD)

- Link to C^4I systems - "memorex" or real

- Provide appropriate level of intelligence

    - messages / reporting

- AAR products -

    - "picto-history"

    - log of activity / decisions made

- Technology supports CAX / CINC training objectives
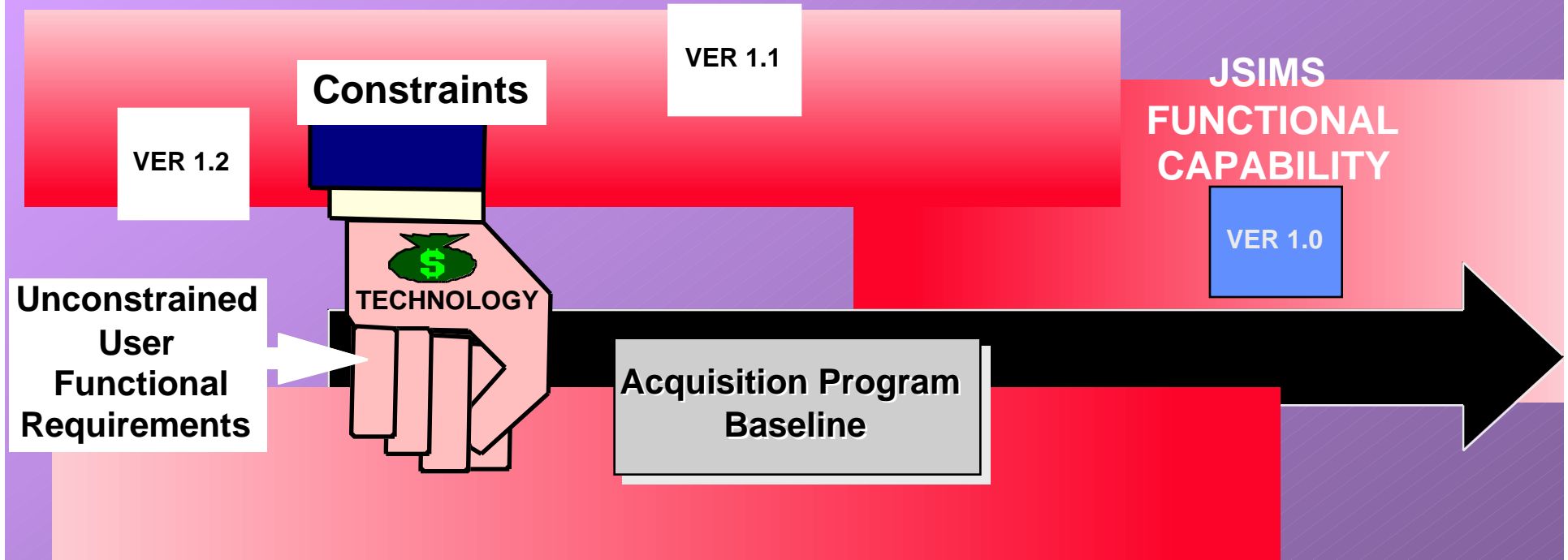
REQUIREMENTS PROCESS

- **Combatant Commands**
  - **Universal Joint Task List (UJTL) Review**
  - **Refined Joint Mission Essential Task List (JMETL)**
  - **Joint Training Plans**
  - **USACOM's Common Task List**
  - **Scenario Development**

- **Joint Task Force (JTF)**
  - **USPACOM JTF JMETL**
  - **USACOM JTF HQ Master Training Guide**

- **Services - Total Force**
  - **Service Tactical Task List (TTL) Review**
  - **Component Mission Essential Task List (METL)**

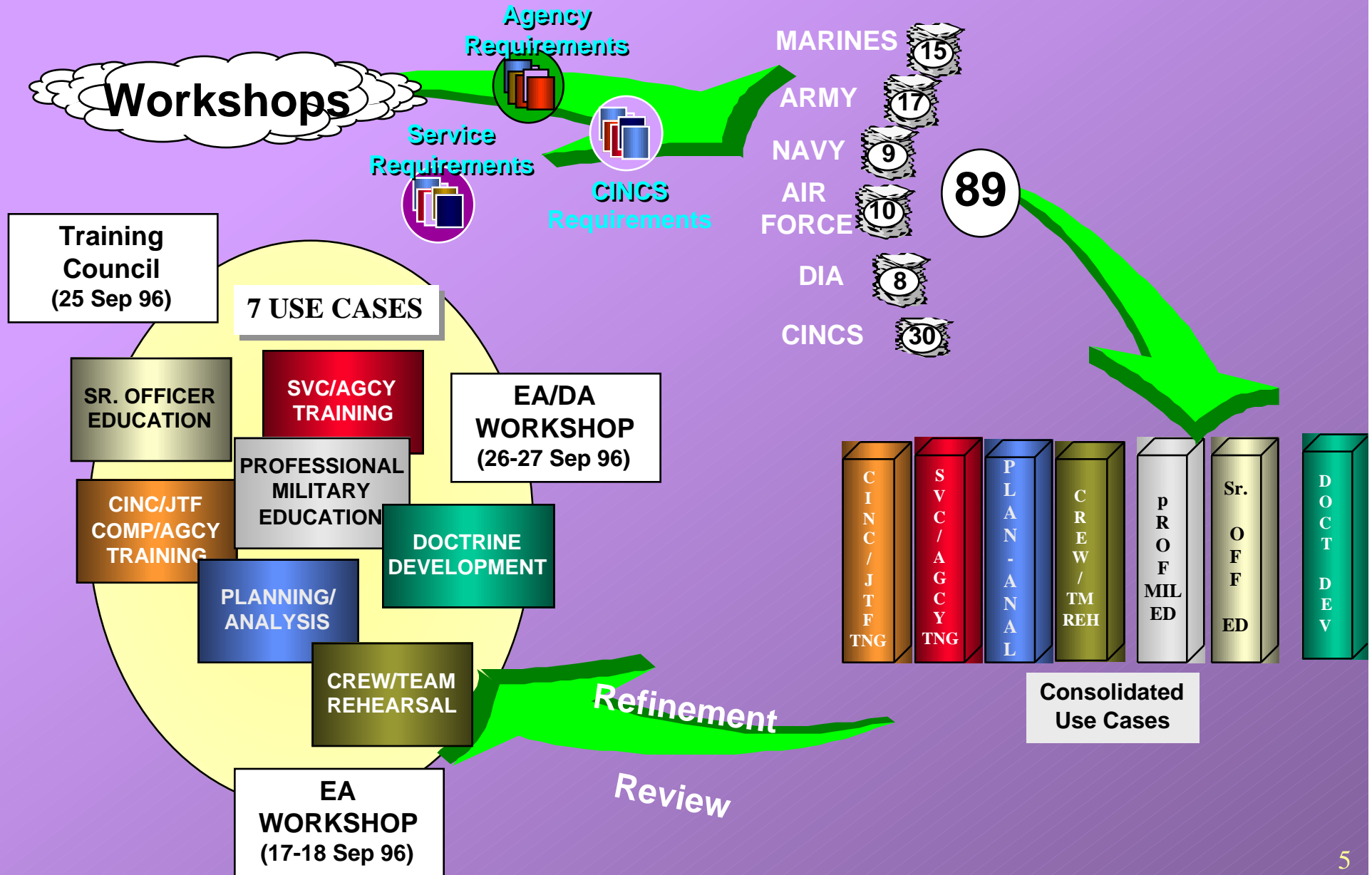# FUNCTIONAL REQUIREMENTS PROCESS

- **Supports JSIMS development process.**
  - **Integrates CINC and Service requirements.**
- **JSIMS Workshops**
  - **Captured Service Requirements over the last three months.**
  - **Reviewed CINC Joint Training Plans for Training Needs.**
  - **Solicitated CINC future needs from Joint Training Review Group Representatives.**
- **Evolves into LONG TERM REQUIREMENTS**

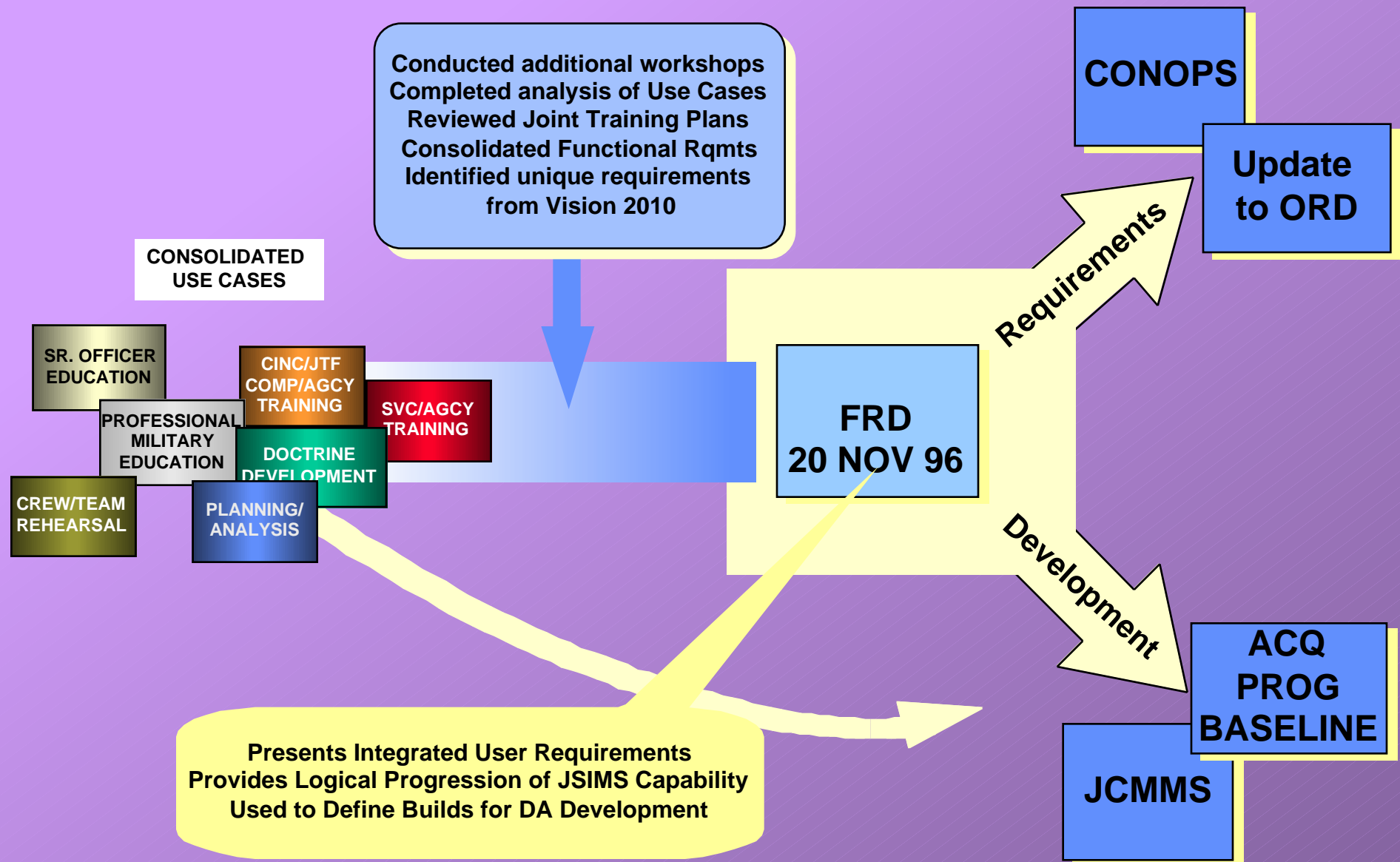# Functional Requirements Process

- **Provides a user focus for the sequential development of JSIMS functional capabilities**

- **Helps drive the update to the Operational Requirements Document and Acquisition Program Baseline**

VER 1.1

Constraints

JSIMS FUNCTIONAL CAPABILITY

VER 1.2

VER 1.0

TECHNOLOGY

Unconstrained User Functional Requirements

Acquisition Program Baseline

Review of the Process

Status

Conducted additional workshops
Completed analysis of Use Cases
Reviewed Joint Training Plans
Consolidated Functional Rqmts
Identified unique requirements
from Vision 2010

CONSOLIDATED USE CASES

SR. OFFICER EDUCATION

CINC/JTF COMP/AGCY TRAINING

SVC/AGCY TRAINING

PROFESSIONAL MILITARY EDUCATION

DOCTRINE DEVELOPMENT

CREW/TEAM REHEARSAL

PLANNING/ ANALYSIS

FRD 20 NOV 96

CONOPS

Update to ORD

Requirements

Development

ACQ PROG BASELINE

JCMMS

Presents Integrated User Requirements
Provides Logical Progression of JSIMS Capability
Used to Define Builds for DA Development

Use Case Characteristics

High

E

C   P O   C   O   E C
                                    O   P   C

E   C   P   C

              C C C   S C
          C   C O C C   O   S C C C   D D
     C C C S C C O O O   S C C   D
          S C C   O   S   D
                                                          D P
              S   S O   D
                                   S S

C = CINC/JTF/Comp/Agency Training   S O   S O   S R O   P

D = Doctrine Development

O = Other Military Education   S   S

P = Planning/ Analysis

E = Sr Officer Education   R

S = Service/Agency Training

R = Crew/Team Rehearsal

Low

Fidelity

9

Correlation With the Real-World

Level of Representation

Sr. Officer Education

Service/Agency Training

CINC/JTF/ JTF Comp/ Agency Training

Development

Doctrine

Planning/ Analysis

Professional Military Education

Crew/Team Rehearsal
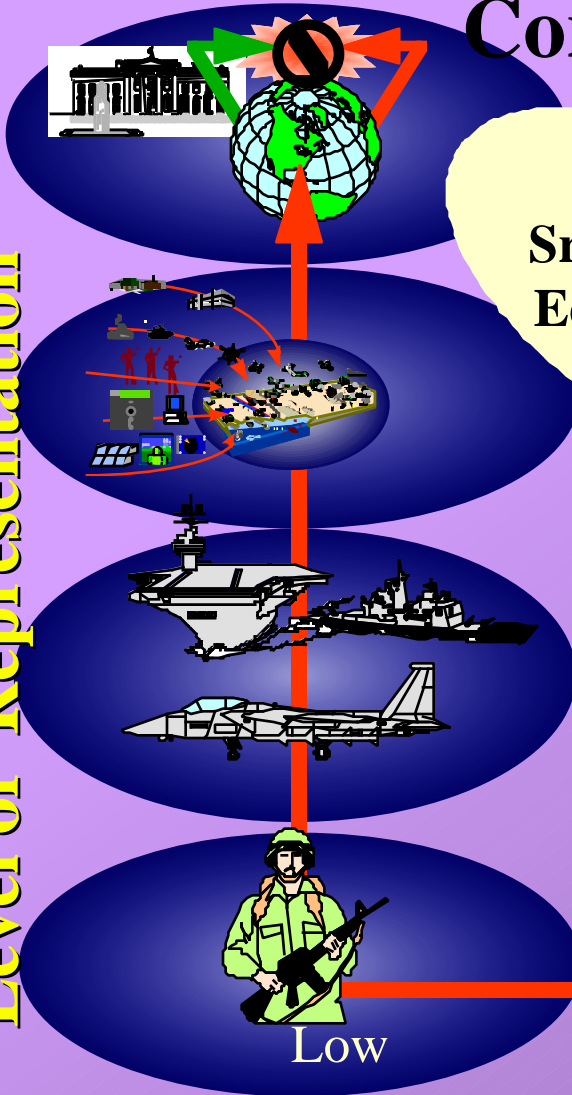
Low

Required Fidelity

High

Conceptual in Nature	Current OPLANS & Ops	Limited to Assigned Mission
Notional Forces	Assigned Forces	Platform Level & Below
Low Behavioral Complexity	Medium Behavioral Complexity	Highest Behavioral Complexity
Highly Aggregated World View	2D/3D C4I View of Battlespace	3D Correlation to Actual Event

10

Next Steps
A Dynamic Process

CONOPS

Update to ORD

CINC Inputs

Service Inputs

Agency Inputs

VER 1.3

VER 1.4

VER 1.2

FRD Version 1.0

REFINE

VER 1.1

ACQ PROG BASELINE

JCMMS

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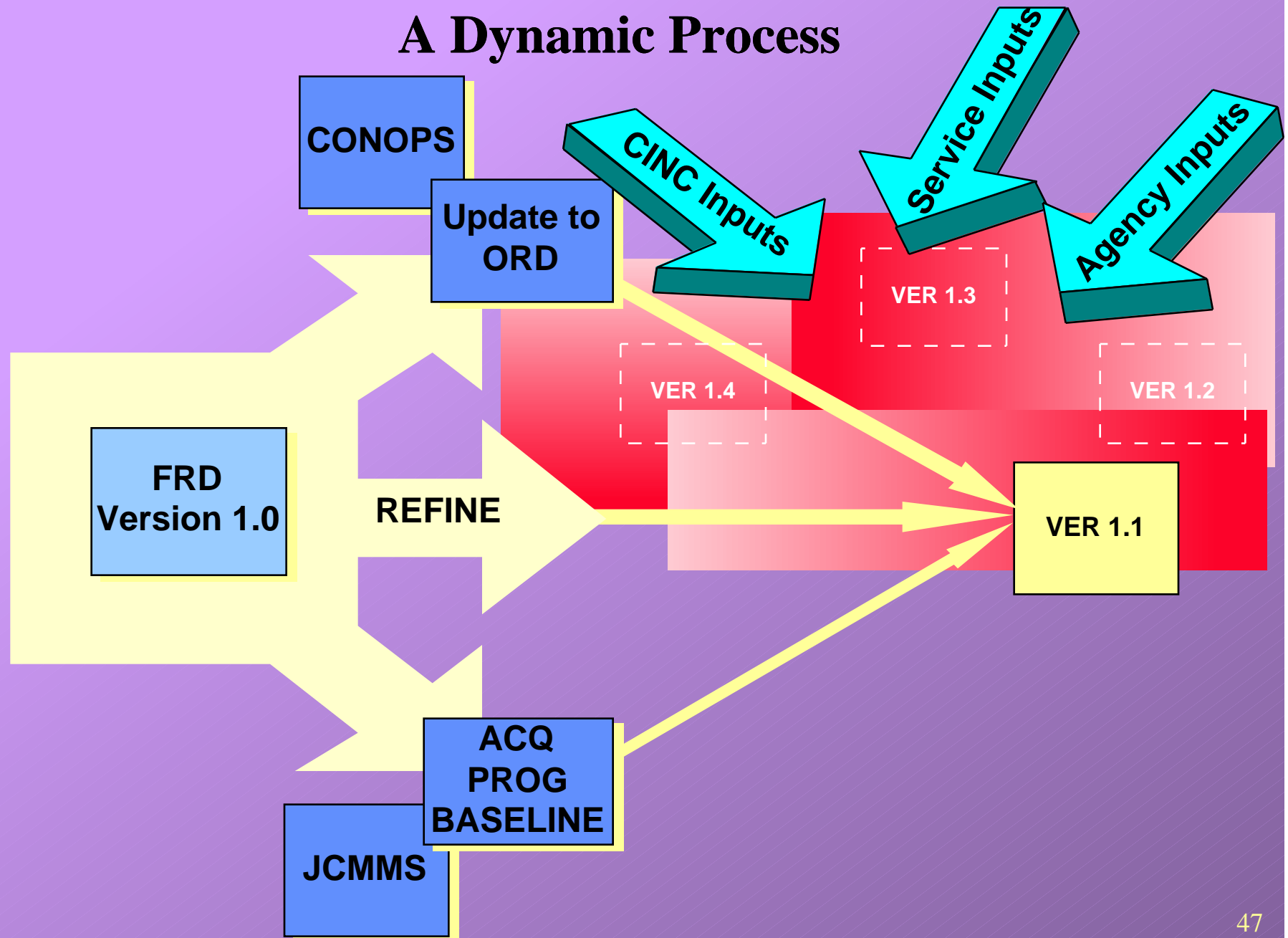
WHY IS IOC BETTER THAN TODAY?

- **Portray Joint Operations at the Strategic Theater and Operational Levels of War**
  - **Combatant Command through Component Training**
  - **Includes Space, SOF, Logistics, Sustainment and Intel**
  - **Supports MOOTW (NEO, Dynamic ROE, multi-dimensional factions, changing allegiances)**
- **Automates Labor Intensive Tasks**
  - **Target processing, BDA, ATO, Intel collection & dissemination**
  - **Training audience feedback**
- **Incorporates a Joint After Action Review Process**

WHAT DOES FOC ADD?

- **Extends functionality to the Strategic National and Tactical Levels of War**
  - **Improved mission rehearsal capability**
  - **Impact of political, social, economic, and cultural factors; expands MOOTW representation**
  - **Incorporates mobilization issues**
- **Continued exercise resource reduction**
  - **"Automated" echelons above and below the targeted training audience**

JSIMS Wargaming Requirements

- **Create a Joint Synthetic Battlespace**
- **Incorporate full spectrum of military operations**
- **Incorporate social, economic and political factors**
- **Utilize User's C4I systems**
- **Distributed wargaming capability**
- **Scaleable capability to run a CINC or Service wargame with a minimum amount of equipment**
- **Linkage to JEMP III**
- **Tailorable Scenarios with real-world databases**

JSIMS Wargaming Requirements

- **Interface with Command GCCS compliant planning systems**

- **Support UJTL V 3.0 Civil, Physical and Military Conditions**

- **Support database development within 96 hours**

- **Time control capability (faster than real time 10:1 and slower than real time 1:10**

- **Provide up to 54 simultaneous scenarios to support education users**

- **On-line queries to highlight user-defined critical events**

SUMMARY

- **A truly Joint effort--CINC and Service involvement up front to meet current and future training needs**
- **Replicates a wider range of the U.S. Armed Forces missions and includes other government agencies**
- **Cooperative program leveraging existing software efforts**
- **Multi-faceted--JSIMS will support training, education, military planning and mission rehearsal**
- **Incorporating User's Requirements--CINC/ Component J/METL with Conditions, *Standards* and their specified Training Audiences**